COMMITMENT & INTEGRITY DRIVE RESULTS

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November 4, 2011

Ms. Kimberly Tisa
PCB Coordinator
U.S. Environmental Protection Agency Region 1
5 Post Office Square – Suite 100
Boston, Massachusetts 02109-3912

Re: PCB Remediation Plan Modification Request No. 7
Peabody Terrace Housing Facility – Buildings E, F, Y, D, and Z
900 Memorial Drive, Cambridge, Massachusetts

Dear Ms. Tisa:

On behalf of the President and Fellows of Harvard College (Harvard), Woodard & Curran has prepared this modification request to the Notification[1] in accordance with Condition 17 of the United States Environmental Protection Agency's (EPA) April 15, 2010 Risk-Based PCB Cleanup and Disposal Approval under 40 CFR 761.61(c) and 761.79(h) (the Approval) and the May 3, 2011 Approved Modification to the Approval for the Peabody Terrace Housing Complex in Cambridge, Massachusetts.

This modification request has been prepared for the specific liquid coatings to be applied to the buildings' exterior concrete façades as part of an encapsulation remedial task. There are two conditions/areas subject to this modification request: 1) areas located away from the caulked joints (i.e., not in direct contact with former PCB containing caulking); and 2) areas in former direct contact with the PCB-containing caulking (e.g., inner returns of the joints). This modification applies to Buildings E, F, Y (current buildings undergoing remediation) as well as the remaining two buildings (Building D and Z) scheduled for work next year.

Current Remediation Plan

Exterior concrete data from Building E, F, and Y façades typically followed the model developed for Buildings A, B, C, and X, with PCB concentrations decreasing with increasing distance from caulked joints, and migration extending further beneath horizontal joints than beside vertical joints. Data collected from Buildings E, F, and Y indicated that PCB concentrations decreased below 1 ppm within 6 to 12 inches of horizontal joints and within 6 inches of vertical joints, which was typically the case at Buildings A, B, C, and X.

While some concrete has been demonstrated to contain PCBs ≤ 1 ppm at certain distances away from the caulked joints, the scope of the façade repair and waterproofing project includes the application of a coating on all concrete façades. Given structural and aesthetic concerns as well as the potential to disturb tenants, no physical removal or chemical decontamination of the concrete will be conducted except where it is required for repairs (removal only).

[1] The Notification consists of the information submitted by Woodard & Curran to satisfy the requirements under 40 CFR 761.61(c), 761.62, and 761.79(h). Primary documents include the February 16, 2010 Building A Plan; April 6, 2010 Buildings B, C, X Plan; February 16, 2011 Buildings E, F, Y Plan; and subsequent modifications, contractor workplans, and other clarifications/certification submittals.

The approved remedial technique for concrete to remain on the building façade will be the application of a containment barrier to encapsulate residual PCBs in order to achieve a barrier such that exposure to residual PCBs is eliminated at the surface. Specifically:

- For concrete in direct contact with caulking, encapsulate with two coats of a liquid epoxy, such as Sikagard 62 or equivalent, followed by the installation of new caulking.

- For concrete in areas away from the caulking (not in former direct contact), encapsulate with two coats of a clear coating, such as Sikagard 670W, or equivalent.

Verification samples collected from Buildings A, B, C, and X indicated that the Sikagard 62 effectively contained residual concentrations of PCBs in concrete at panel/column joints, patio slab to building façade joints, and at concrete to metal window and door joints (all 33 samples reported with PCBs < 1 µg/100cm^2, with 31 of these reported as non-detect). Initial results from the encapsulated balcony slab joints indicated a slightly lower level of effectiveness at these locations with Sikagard 62 alone; however, the overall encapsulation system (two coats of Sikagard 62 in the joint followed by two beads of Sikaflex 2C and two coats of BASF Sonoguard) met target cleanup levels at 10 of 11 balcony joint locations with the one location only slightly over the target level of 1 µg/100cm^2. Similar results have been observed at those wipe samples collected to date at Buildings E and Y.

Verification data collected from Buildings A, B, C, and X demonstrated that applying two coats of the Sikagard 670W served as an effective barrier to encapsulate any residual PCBs in the concrete, as 22 out of 22 verification samples were reported as non-detect for PCBs (< 0.5 µg/100 cm^2). Similar results have been observed at those wipe samples collected to date at Buildings E and Y.

Proposed Modification Request

Although the verification data for the coated facade surfaces has met the project action levels to date, Harvard is proposing a modification to the plan for the acrylic coating at the direction of the project engineer for the building façade renovation work, Simpson Gumpertz & Heger, Inc. (SGH). This request is related to the concrete repair patch areas, where the concrete used for the patching is of a different density than the existing concrete façade. As a result, water absorption rates are different and when coated with the Sikagard 670W, some of the patches, after drying, are exhibiting color differences that are not aesthetically acceptable to the project team.

After reviewing and testing several products, the engineer has recommended that an initial coat of BASF EnviroSeal 40, which is a clear silane-based sealer, be used as the first coat on the concrete followed by a second coat of the Sikagard 670W coating. Product data sheets for both products are attached to this letter.

This combination of two coats was recently applied on several areas of Building Y and following cure time, two wipe samples were collected following the project standard sampling practices. PCBs were not detected in either of the wipe samples at concentrations above the minimum laboratory reporting limit (< 0.5 ug/100cm^2).

Given that the Notification and Approval specify two coats of a liquid coating, Sikagard 670W or equivalent, as part of the PCB encapsulation for the building façade away from the caulking and the information provided above, it is proposed that the two coats consist of the two different products specified above (one coat EnviroSeal 40 and one coat Sikagard 670W) to both meet the PCB target action level as well as the overall requirements for the façade repair and waterproofing project.

Similarly, although the verification data for the coated inner joint returns coated with the epoxy met the project action levels, Harvard is proposing a modification to the plan for the epoxy coating at the request of the waterproofing contractor, Calhess Restoration & Weatherproofing Corp., performing the building façade renovation work. This request is related to the implementation of the Sika product

(mixing and application limitations) as well as odor observations. The Contractor pilot tested a different epoxy, Devcon 5 Minute epoxy, and found that it was easier, faster and more efficient than the Sikagard 62 epoxy with similar performance criteria (from an adhesion / cohesion and weatherproofing standpoint). This product also exhibited fewer odors than the Sika product. A product data sheet is attached to this letter.

The Devcon 5 Minute Epoxy was applied on several different joints on Buildings E and Y and following cure time, wipe tests were collected following the project standard sampling practices. Of the 17 samples collected from panel or window joints, 14 were non detect (< 0.5 ug/100cm^2) with 3 reporting concentrations of 0.7, 1.2 and 11 ug/100cm^2. Of the 11 samples collected from balcony joints, 6 were non detect (< 0.5 ug/100cm^2) with 5 reported concentrations ranging from 1.03 to 37 ug/100cm^2. These results were similar to those observed with the Sikagard 62 product (higher levels at the balcony joints). As a result, thicker coatings of the Devcon 5 will be applied to the balcony joints as is the case with the Sikagard 62 epoxy, and any exceedances of the target action level will be addressed by applying an additional layer of the coating (or by installing the final balcony encapsulation system) at the locations represented by that sample.

Although the Notification indicates the use of specific products or equivalents for concrete encapsulation, this modification request is to add (and/or provide notice for) the option of using other products to improve overall project effectiveness while still maintaining the same performance criteria for any coatings used as a PCB encapsulant on this project.

If you have any comments, questions, or require further information, please do not hesitate to contact me at the number listed above.

Sincerely,

WOODARD & CURRAN INC.

Jeffrey Hamel, LSP, LEP
Senior Vice President

cc: Karen Sardone, Harvard
Chris Packard, JLL

BASF

The Chemical Company

PRODUCT DATA

7 07 19 16 **Water Repellents**

ENVIROSEAL® 40

Clear, water-based 40% silane penetrating sealer

Description

Enviroseal® 40 is a clear, water-based, 40% alkylalkoxysilane penetrating sealer. It provides long-lasting protection against moisture intrusion, freeze/thaw cycles, and chloride intrusion. It is ideal for traffic-bearing surfaces.

Yield

Concrete:
100 – 200 ft²/gal (2.4 – 4.8 m²/L)

Brick:
100 – 200 ft²/gal (2.4 – 4.8 m²/L)

Always apply a test area to determine actual coverage rates. Coverage rates will vary greatly with the porosity of the substrate.

Packaging

5 gallon (19 L) pails

54 gallon (205 L) drums

Color

Milky white liquid; clear when dry

Shelf Life

18 months when properly stored

Storage

Store in unopened containers in a clean, dry area between 35 and 110° F (2 and 43° C).

Features	Benefits
• Water based, VOC compliant	Environmentally friendly
• Excellent penetration	Protects against damage from moisture intrusion and chloride ion penetration
• 40% silane	Ideal for traffic-bearing surfaces
• Breathable	Allows interior moisture to escape without damaging sealer
• Transparent, nonstaining	Does not alter surface appearance
• One component	Easy to apply; saves labor

Where to Use

APPLICATION

- Parking garages
- Stadiums
- Bridge decks
- Concrete highway road surfaces
- Ramps and barrier rails
- Stadiums
- Cooling towers
- Many other reinforced concrete structures

LOCATION

- Horizontal and vertical
- Exterior or interior
- Above grade

SUBSTRATE

- Concrete substrates: architectural, glass-fiber-reinforced, precast, cast in place, slicia fume
- New and existing concrete

How to Apply

Surface Preparation

1. Verify substrate has properly cured. Concrete should obtain 80% of design strength, typically achieved within 14 – 28 days.

2. Clean concrete surfaces of all sand, surface dust and dirt, oil, grease, chemical films and coatings and other contaminants prior to application. Use waterblast, sandblast, or shotblast as necessary to achieve the desired surface condition.

3. Surface, air, and material temperatures should be 40 to 110° F (4 to 43° C) during application. Do not apply Enviroseal® 40 when temperatures are expected to fall below 40° F (4° C) within 12 hours.

4. Surfaces to be treated can be slightly damp; however, a dry surface is suggested for maximum penetration of sealer. Do not apply Enviroseal® 40 if standing water is visible on the surface to be treated.

5. Crack control, caulking, patching, and expansion joint sealants can be installed before or after application of the sealer. Allow a minimum of 6 – 12 hours curing time for caulking and sealant materials (or until they have skinned over) before applying Enviroseal® 40.

HYDROZO®

Technical Data

Composition

Enviroseal® 40 is a water-based alkylalkoxysilane sealer.

Compliances

- Alberta DOT, Type 1b

Typical Properties

PROPERTY	VALUE
Solids and active ingredients, % by weight	40
Specific gravity, 77° F, (25° C)	0.95
Density, lbs/gal	7.9
Penetration, in (mm), average depth, depending upon substrate	0.24 (6.1)

Test Data

PROPERTY	RESULTS	TEST METHODS
Flash point, ° F (° C)	> 200 (> 93)	ASTM D 3278, SETA
VOC content, lb/gal (g/L)	< 2.92 (< 350)	EPA Method 24
Water absorption, %		ASTM C 642
48 hours	0.42	
50 days	1.2	
Scaling resistance rating, non-air-entrained concrete, 100 cycles treated concrete	0 – No Scaling	ASTM C 672
Resistance to chloride-ion penetration, lbs/yd^3 (kg/m^3)		AASHTO T 259 and T 260
Criteria of 1.5 at 1/2" (13 mm)	< 0.52 (< 0.31)	
Criteria of 0.75 at 1" (25 mm)	0.00 (0.00)	
Water weight gain, % reduction	85 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	87 – exceeds criteria	NCHRP 244 Series II-cube test
Absorbed chloride, % reduction	99 – exceeds criteria	NCHRP 244 Series IV - Southern climate
Water repellent performance, %		Alberta Transportation and Utilities Procedures - Type 1b
Initial performance	89	
Post-abrasion performance	89.4	

Test results are averages obtained at a coverage rate of 125 ft^2/gal (3.12 m^2/3.8 L) under laboratory conditions. Reasonable variations can be expected.

Application

1. Test a small area of surface (generally a 5 by 5 ft [1.5 by 1.5 m] section) before starting general application of any clear penetrating sealer to ensure desired results and coverage rates. Allow 5 – 7 days for the product to fully react before evaluating.

2. Stir material thoroughly before and during application.

3. Apply to saturation. Apply by low-pressure non-atomizing spray or, if desired on horizontal surfaces, by pouring, followed by a squeegee or a broom for even distribution.

Drying Time

Typical drying time for Enviroseal® 40 is 4 hours at 70° F (21° C) and 50% relative humidity. Cooler temperatures or higher relative humidity can extend the drying time.

Clean Up

Clean equipment and tools with hot soapy water. Overspray can be cleaned immediately with hot soapy water. Dried residue can be cleaned with a mild citric acid or very hot water, then scrubbed with a plastic sponge.

For Best Performance

- Keep material from freezing.
- Do not dilute Enviroseal® 40.
- Do not apply during inclement weather or when inclement weather is anticipated within 12 hours.
- To prevent damage to nearby shrubbery and landscaping, cover or protect with drop cloth.
- Enviroseal® 40 may leave a temporary slippery surface for up to several hours after application. Therefore, traffic-bearing surfaces should not be reopened until the treated surface is dry.
- Variations in the texture and porosity of the substrate will affect the coverage and performance of the product.
- Enviroseal® 40 will not inhibit water penetration through unsound or cracked surfaces or surfaces with defective flashing, caulking, or structural waterproofing.
- Line striping can be done after application of the sealer.
- Make certain the most current versions of product data sheet and MSDS are being used; call Customer Service (1-800-433-9517) to verify the most current versions.
- Proper application is the responsibility of the user. Field visits by BASF personnel are for the purpose of making technical recommendations only and not for supervising or providing quality control on the jobsite.

Health and Safety

ENVIROSEAL® 40

Caution

Enviroseal® 40 contains alkoxysilane.

Risks

May cause skin, eye or respiratory irritation. Ingestion may cause irritation.

Precautions

KEEP OUT OF THE REACH OF CHILDREN. Avoid contact with skin, eyes, and clothing. Wash thoroughly after handling. Keep container closed when not in use. DO NOT take internally. Use only with adequate ventilation. Use impervious gloves, eye protection and if the TLV is exceeded or used in a poorly ventilated area, use NIOSH/MSHA approved respiratory protection in accordance with applicable federal, state and local regulations.

First Aid

In case of eye contact, flush thoroughly with water for at least 15 minutes. In case of skin contact, wash affected areas with soap and water. If irritation persists, SEEK MEDICAL ATTENTION. Remove and wash contaminated clothing. If inhalation causes physical discomfort, remove to fresh air. If discomfort persists or any breathing difficulty occurs or if swallowed, SEEK IMMEDIATE MEDICAL ATTENTION.

Refer to Material Safety Data Sheet (MSDS) for further information.

Proposition 65

This product contains material listed by the state of California to cause cancer, birth defects, or other reproductive harm.

VOC Content

Less than 2.92 lbs/gal or 350 g/L, less water and exempt solvents.

For medical emergencies only, call ChemTrec (1-800-424-9300).

Product Data Sheet
Edition 3.12.2009
Identification no. 604
Sikagard 670W

Construction

Sikagard® 670W

Water dispersed, acrylic, protective, anti-carbonation coating

Description	Sikagard 670W is a water dispersed colored, acrylic, protective coating. Sikagard 670W prevents moisture ingress, is water vapor permeable and provides an excellent carbonation barrier.
Where to Use	Above grade, exterior application on buildings or civil engineering structures. It is designed to aesthetically enhance and protect concrete and other masonry substrates subject to normal hydrothermal movement. Protective, decorative seal coat for SikaColor and Sikadur Balcony Systems.
Advantages	■ Easy to apply. ■ Extremely resistant to dirt pick-up and mildew. ■ Excellent resistance to carbon dioxide and other aggressive gas diffusion. ■ Excellent UV resistance. ■ Excellent weathering resistance. ■ Prevents ingress of chlorides. ■ Cost effective protection. ■ Vapor permeable; allows each way water vapor diffusion (breathable).
Coverage	Theoretical per coat: 300 sq. ft./gal. Wet film thickness: 5 mils. Dry film thickness: 2.5 mils. Normal coating system is two coats minimum at a total nominal dry film thickness of 5 mils. Consumption is obviously dependent on substrate. In addition, allowance must be made for surface profile, variations in applied film thickness, loss and waste. A third coat may be necessary where opacity is reduced through thinning of the first coat, on dense substrates or with very bright color shades.
Packaging	5 gallon, re-closable plastic pails.

How to Use

Surface preparation

All surfaces to be coated must be clean, dry, laitance free, sound and frost-free with curing compound residues and any other contaminants removed. An open textured sandpaper-like surface is ideal (CSP-3). Where necessary, surfaces should be prepared mechanically by blast cleaning or high pressure waterjetting. Allow adequate time for drying. Bugholes, cracks or irregularities of substrate should be filled and leveled with SikaTop, Sika MonoTop leveling mortar or Sikagard Surface Fillers as appropriate.

Typical Data (Material and curing conditions at 73°F (23°C) and 50% R.H.)

Shelf Life 1 year in original, unopened container.

Storage Conditions Store dry at 40°-95°F (4°-35°C). **Condition material to 60°-75°F before using.** Protect from freezing. If frozen, discard.

Colors 463 standard colors. Custom color-matching available.

Pot Life Indefinite, provided proper care is taken in protecting the system from moisture, freezing, contamination, or evaporation.

Solids Content **by weight:** 60% **by volume:** 46%

Waiting and Drying Times

Between Coats:	Rain Resistant After	Final Drying
45°F (7°C) approx. 90 min.	approx. 5 hours	approx. 24 hours
68°F (20°C) approx. 30 min.	approx. 1 hour	approx. 4 hours
85°F (30°C) approx. 20 min.	approx. 40 min.	approx. 3 hours

Water Vapor Diffusion (at 5 mils. = 120 microns dry film thickness)
μ - value H_2O (diffusion coefficient) = 3,140
SdH_2O (equivalent air thickness) = 1.3 ft. (0.4 m)

Carbon Dioxide Diffusion (at 5 mils. = 120 microns dry film thickness)
μ- value CO_2 (diffusion coefficient) = 1,100,000
$SdCO_2$ (equivalent air thickness) = 433 ft. (132 m.)
Equivalent concrete thickness (Sc) = approximately 13 inches (33 cm.)

Moisture Vapor Permeability (ASTM E-96) 17.9 Perms

Flame Spread and Smoke Development (ASTM E-84-94)
Flame Spread: 0 Smoke Development: 5 Class Rating: A

Weathering (ASTM G-26) 2000 hours Excellent, no chalking or cracking.

Construction

Priming	All porous areas or concrete with excessive porosity should be primed using Sikagard 552W Primer or SikaLatex R to allow easy application of Sikagard 670W.
Mixing	Stir thoroughly to ensure uniformity using a low speed (400-600 rpm) drill and Sika paddle. To minimize color variation when using multiple batches, blend two batches of Sikagard 670W. Use one pail and maintain the second pail to repeat this procedure (boxing) for the entire application.
Application	Any areas of glass or other surfaces should be masked. Recommended application temperatures (ambient and substrate) 45°-95°F (5°-35°C). Sikagard 670W can be applied by brush, roller, or spray over entire area moving in one direction. Allow a minimum of 20-90 minutes prior to re-coating. At lower temperatures and high humidity, waiting time will be prolonged. At higher temperatures, work carefully to maintain a 'wet' edge. Sikagard 670W is usually applied using a short nap lambs wool roller. Sikagard 670W is particularly suitable for application by spray using the most standard spray painting equipment. As with all coatings, jobsite mock-ups should always be completed to confirm acceptability of workmanship and material. **Note:** To achieve a dry film thickness of 4-6 mils., two uniform coats should be anticipated. On porous substrates, a third coat may be necessary and on particularly dense substrates, the first coat should be thinned 10% by volume with water. A third coat may then be needed for opacity. **As a protective, decorative seal coat:** Apply with a short nap roller at a rate of 160 sq. ft./gal. (10 mils, wft) after the second coat of SikaColor has cured. On the Sikadur Balcony System, the 670W seal coat is applied with a short nap roller at a rate of 160 sq. ft. per gallon (10 mils., wft) after all excess broadcast sand has been removed from the cured, broadcasted Sikadur 22 Lo-Mod layer.
Limitations	■ Do not use over moving cracks. ■ Substrate must be dry prior to the application. ■ Minimum age of concrete prior to the application is 14 days, depending on curing and drying conditions (moisture content must be below 5%). ■ Minimum age of SikaTop or Sika MonoTop thin layer renderings is 3 days prior to the application of 670W (moisture content must be below 5%). ■ Sikagard 670W should not be applied at relative humidities greater than 90%, or if rain is forecast within the specified rain resistance period. ■ Allow sufficient time for the substrate to dry after rain or other inclement conditions. ■ Product must be protected from freezing. If frozen, discard. ■ Not designed for use as a vehicular traffic bearing surface. ■ During application, regular monitoring of wet film thickness and material consumption is advised to ensure that the correct layer thickness is achieved. ■ When overcoating existing coatings, compatibility and adhesion testing is recommended. ■ Do not store Sikagard 670W in direct sunlight for prolonged periods.
Caution **Warning**	Avoid breathing vapors. Use only with adequate ventilation. May cause respiratory irritation and headaches.
Irritant	Skin, eye, and respiratory irritant; avoid contact. Use of safety goggles and chemical resistant gloves is recommended. Remove contaminated clothing.
First Aid	In case of eye contact, flush with water for 15 minutes, contact physician immediately. For skin contact, wash skin with soap water. For respiratory problems, remove person to fresh air. Wash clothing before re-use.
Spill Clean Up	Confine spill, ventilate closed areas, and collect with absorbent material. Dispose of in accordance with current, applicable, local, state, and federal regulations. Uncured material can be removed water. Cured material can only be removed mechanically.

Visit our website at www.sikaconstruction.com **1-800-933-SIKA NATIONWIDE**

Regional Information and Sales Centers. For the location of your nearest Sika sales office, contact your regional center.

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Sika Mexicana S.A. de C.V.
Carretera Libre Celaya Km. 8.5
Fracc. Industrial Balvanera
Corregidora, Queretaro
C.P. 76920
Phone: 52 442 2385800
Fax: 52 442 2250537

ISO 9000:2000

Devcon®

Technical Data Sheet

10/6/2010

5 Minute® Epoxy

Description: A rapid-curing, general purpose adhesive/encapsulant.

Intended Use: Bonds metals, fabrics, ceramics, glass, wood, and concrete (in combinations)

Product features:
100% reactive, no solvents
Good solvent resistance
Bonds metals, fabrics, wood, and concrete

Limitations: None

Typical Physical Properties:

Technical data should be considered representative or typical only and should not be used for specification purposes.

Cured 7 days @ 75° F	
Adhesive Tensile Lap Shear[GBS]	1,900 psi @ 0.005" bondline
Dielectric Strength	490 volts/mils
Gap Fill	Good
Impact Resistance	5.5 ft.lb./in.(2)
Shore Hardness	85 Shore D
Solids by Volume	100
Specific Volume	25.1 in.[3]/lb.
Tensile Elongation	1%
Tpeel	2-3 pli

Uncured	
Color	Light Amber
Fixture Time	10-15 min. @ 72°F
Full Cure	12
Functional Cure	3/4 - 1 hr. @ 72°F
Mix Ratio by Volume	1:1
Mix Ratio by Weight	1:1
Mixed Density	9.17 lbs./gal.: 1.10 gm/cc
Mixed Viscosity	10,000 cps
Service Temperature	Dry, -40°F to 200°F
Working Time	3-6 min. (28 gm @ 72°F)

TESTS CONDUCTED

Adhesive Tensile Shear ASTM D 1002
Dielectric Strength, volts/mil ASTM D 149
Cured Hardness Shore D ASTM D 2240
Cured Density ASTM D 792

Surface Preparation: Clean surface by solvent-wiping any deposits of heavy grease, oil, dirt, or other contaminants. Surface can also be cleaned with industrial cleaning equipment such as vapor phase degreasers or hot aqueous baths. If working with metal, abrade or roughen the surface to significantly increase the microscopic bond area and increase the bond strength.

Mixing Instructions: ---- Proper homogenous mixing of resin and hardener is essential for the curing and development of stated strengths. ----

25 ML DEV-TUBE
1. Squeeze material into a small container the size of an ashtray.
2. Using mixing stick included on Dev-tube handle, vigorously mix components for one (1) minute.
3. Immediately apply to substrate.

50 ML/400ML/490 ML CARTRIDGES
1. Attach cartridge to Mark V ™ [50ml] 400ml manual or pneumatic dispensing systems.
2. Open tip.
3. Burp cartridge by squeezing out some material until both sides are uniform (ensures no air bubbles are present during mixing).
4. Attach mix nozzle to end of cartridge.
5. Apply to substrate.

Application Instructions:
1. Apply mixed epoxy directly to one surface in an even film or as a bead.
2. Assemble with mating part within recommended working time.

3. Apply firm pressure between mating parts to minimize any gap and ensure good contact (a small fillet of epoxy should flow out the edges to display adequate gap fill.)

For very large gaps:
1. Apply epoxy to both surfaces
2. Spread to cover entire area OR make a bead pattern to allow flow throughout the joint

Let bonded assemblies stand for recommended functional cure time prior to handling.

CAPABILITIES:
Can withstand processing forces
Do not drop, shock load, or heavily load

Storage: Store in a cool, dry place.

Compliances: None

Chemical Resistance: *Chemical resistance is calculated with a 7 day, room temp. cure (30 days immersion) @ 75°F)*

Acetic (Dilute) 10%	Poor	Hydrochloric 10%	Poor
Acetone	Poor	Isopropanol	Poor
Ammonia	Poor	Kerosene	Excellent
Corn Oil	Excellent	Methyl Ethyl Ketone	Poor
Cutting Oil	Excellent	Mineral Spirits	Excellent
Ethanol	Poor	Motor Oil	Excellent
Gasoline (Unleaded)	Excellent	Sodium Hydroxide 10%	Poor
Glycols/Antifreeze	Fair	Sulfuric 10%	Poor

Precautions: Please refer to the appropriate material safety data sheet (MSDS) prior to using this product.
For technical assistance, please call 1-800-933-8266
FOR INDUSTRIAL USE ONLY

Warranty: Devcon will replace any material found to be defective. Because the storage, handling and application of this material is beyond our control, we can accept no liability for the results obtained.

Disclaimer: All information on this data sheet is based on laboratory testing and is not intended for design purposes. ITW Devcon makes no representations or warranties of any kind concerning this data.

Order Information:

14210 2.5 oz.
14630 9 lb.
DA051 400 ml cartridge
14250 25 ml DevTube
14200 15 oz.
14270 50 ml Dev-Pak
14098 14cc syringe